

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

Claim 1 (currently amended): A method for forming a smooth interface between a silicon surface and a dielectric layer comprising:

providing a silicon substrate with an upper surface;

~~forming an amorphous region in said upper surface by exposing said upper surface to halogen species; and~~

exposing a chlorine containing gas to UV radiation to form excited chlorine species;

heating said upper surface to a temperature between 50°C and 250°C;

exposing said heated upper surface to said excited chlorine species to form an amorphous region; and

forming a dielectric layer on said amorphous region.

Claim 2 (previously presented): The method of claim 1 further comprising removing a dielectric layer from said upper surface prior to forming said amorphous region.

Claim 3 (canceled)

Claim 4 (original): The method of claim 1 wherein said dielectric layer is formed using a material selected from the group consisting of silicon oxide, silicon nitride, silicon oxynitride, and a silicate.

Claim 5 (previously presented): A method for forming an interface between a silicon surface and a dielectric layer comprising:

providing a silicon substrate with an upper surface;

forming an amorphous region in said upper surface by exposing said upper surface to halogen species;

forming a capping layer on said amorphous region; and

forming a dielectric layer on said capping layer.

Claim 6 (previously presented): The method of claim 5 further comprising removing a dielectric layer from said upper surface prior to forming said amorphous region.

Claim 7 (previously presented): The method of claim 5 wherein said halogen species is selected from the group consisting of chlorine, bromine, iodine and fluorine.

Claim 8 (previously presented): The method of claim 5 wherein said forming said amorphous further comprises:

exposing a chlorine containing gas to UV radiation to form excited chlorine species;

heating said upper surface to a temperature between 50°C and 250°C; and

exposing said heated upper surface to said excited chlorine species.

Claim 9 (previously presented): The method of claim 5 wherein said dielectric layer is formed using a material selected from the group consisting of silicon oxide, silicon nitride, silicon oxynitride, and a silicate.

Claim 10 (original): A method for forming a smooth interface between a silicon surface and a dielectric layer comprising:

providing a silicon substrate with an upper surface;

exposing a chlorine containing gas to UV radiation to form excited chlorine species;

heating said upper surface to a temperature between 50°C and 250°C;

exposing said heated upper surface to said excited chlorine species thereby forming an amorphous region on said upper surface; and

forming a dielectric layer on said amorphous region.

Claim 11 (original): The method of claim 10 wherein said dielectric layer is formed using a material selected from the group consisting of silicon oxide, silicon nitride, silicon oxynitride, and a silicate.